

Conservation of Archaeological Sites in Atacama Desert, Chile: The Geoglyphs of Chug Chug

Francisca Gili, Archaeological Conservator

Project: "Mobility Strategies in Pre-Inca trails connecting the central zone of Loa River and coast of the Atacama region (Fondecyt 1090762) Responsible researcher: Archaeologist Gonzalo Pimentel Chilean National Fund for Scientific and Technological Development.

Introduction

Geoglyphs are a cultural manifestation that is present in only a few parts of the world including the United States, Perú, England, and Chile. In this last country, there is a wide concentration of geoglyphs in the northern regions of Atacama and Tarapaca. A complex system of interchange was developed in this zone in the pre-Hispanic period using caravans that connected coastal, desert, and highland regions. Different connection roads were established between important zones and one of the most symbolic icons associated to these roads are geoglyphs. Because of a very low index of erosion in this desert area, both cultural manifestations –roads and geoglyphs– are very well preserved.

Chug Chug is a geoglyph site related to a caravan road that connected two important oases in the Atacama desert - Quillagua and Calama. Four hills contain numerous iconic geoglyphs representing different symbolic references for caravans traveling in these arid zones in ancient times. Initiatives carried out in the 1970s attempted to publicize this heritage zone and promote it as a tourist attraction. A small visitor center was built and administrated by the local government of Maria Elena, a nearby small town known for nitre mining. These days, this center is an uncontrolled touristic spot. In the context of this Fondecyt research project a conservation assessment was carried out. This assessment developed a process to characterize the principal agents and effects of alteration that this cultural site presents, with the aim of generating an integral conservation plan for preserving the Chug Chug archaeological area.



Method

Different authors have made recommendations regarding how to design conservation programs for this kind of archeological site (Stanley Price 1989, Villar García 1991, Bednarik 2001, Loubster 2001, Lage 2007, Ferraro 2011*). They consider the importance of understanding the ecosystem, the cultural landscape, and the different elements that constitute the site. The authors highlight the importance of documenting the site and understanding the factors that cause deterioration in order to propose conservation interventions and management programs.

In this conservation assessment first the site was analyzed with a wide focus, understanding the archaeological area and interventions in its surroundings and how they affected in the preservation of the site. Then its legal and administrative situation was reviewed; an interview was carried out with those responsible for the administration in the town hall of Maria Elena to see how the site has been monitored.

In the research context of this project, exhaustive documentation has been carried out by archaeologists and topographers. As a result there is a photographic archive and a complete topographic mapping where all the components of the site are georeferenced. With this documentation as a starting point all the direct alterations that affected the site were registered detailing their extent and type, according to the agent that caused it (mainly natural or anthropic events). Then a designer helped procesing images that included all the collected data.

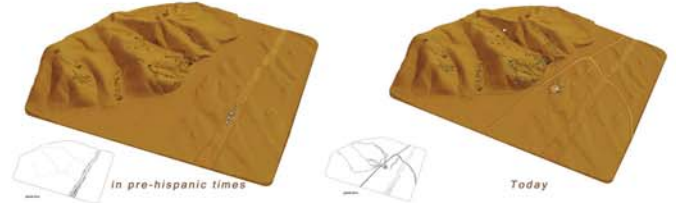


Results

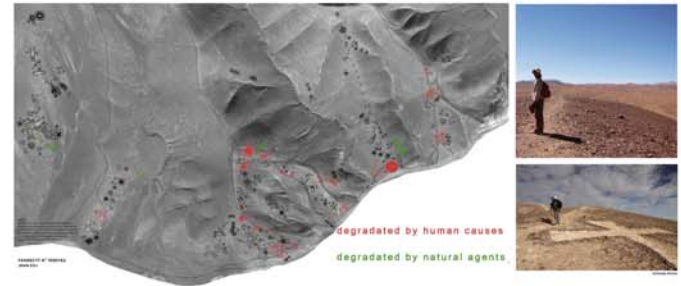
This archaeological area is constituted primarily by events of anthropic modification which occurred in prehispanic times. One modification is the caravans roads associated with the trade network and the other modification is the geoglyphs present in the area. 395 icons are on the slope of a group of hills that are clearly visible from the caravan road. Both are located in an area of about 32,6 hectares. According to the Chilean law of the Monuments Council (Consejo de Monumentos) number 17.288, this site is declared as a National Monument. All thought, there is no record of the parameters of this protected area. Only two signs are placed - in the beginning and end of the hills where the geoglyphs are evident - apparently leaving the caravan area unprotected and not legally linked to the geoglyphs component. Regarding its administration, the Town Hall of Maria Elena is not able to sustain control over visits to the site because of lack of financial resources to perform these activities.



Access through this area, nowadays, is by using a new road developed for mining prospecting which runs parallel to the pre-Hispanic road. This new road is positioned between the geoglyphs and the caravan road and disrupts the relation between the two principal elements that compose the archaeological site. Exactly in this point between both elements, a small visitor center has been constructed which is composed primarily of two metal benches and a signs welcoming visitors to the site.

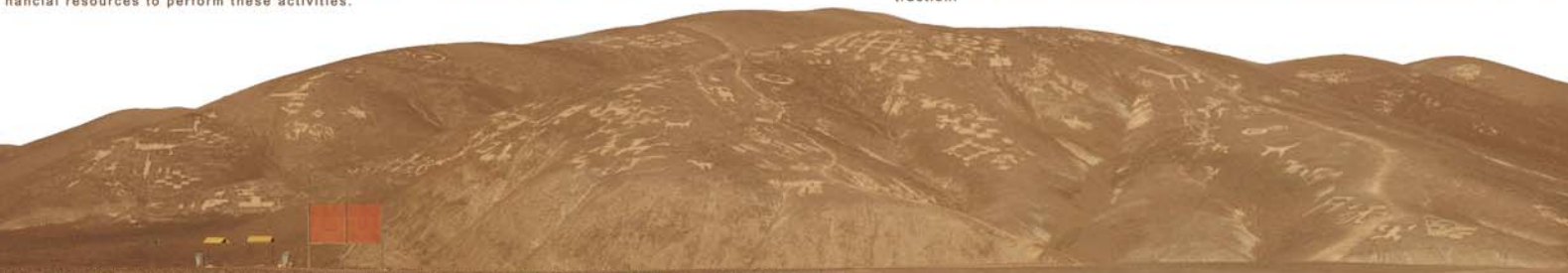


Regarding direct alterations that affect the site there is a low percent 4% caused by natural agents (wind and rain). The main problem has been generated by human causes; pedestrian trails affecting the 21% of the geoglyph depictions. This is because of the positioning of the visitor center; due the short distance between it and the hills with geoglyphs, the depictions are not readily visible. In addition to this there is only the welcoming sign - there is no information about the relation between the geoglyphs and the ancient caravans roads from where they were supposed to be seen in pre-Hispanic times. Neither is there any advice on how to take care of this heritage manifestation when visiting the site. Due to this lack of information, for decades visitors have had no guidance on how to visit the site. As a result almost all visitors have walked up the hills to have a better view ; by doing this visitors have created several new footpaths that go between and in many cases over the geoglyphs.



Conclusions and recommendations

The most important element affecting this manifestation of cultural heritage is that when the dissemination plan to designate this area as an archeological site was developed it didn't consider all of the components - the geoglyphs and the caravan roads and the connection between the two. The access and the visitor center dismantle the evidence of the cultural dynamics developed in ancient times. The lack of information about the context of this site and its preservation is generating its degradation. It is necessary to develop an integral management plan for the site that contemplates: its legal and administrative protection, diffusion of information about the cultural dynamics that generated this archaeological site, and infrastructure associated with heritage tourism that promotes understanding of the site and prevents activities that serve as agents of alteration. This case is recommended as an example of how an initiative that had the best intentions of promoting an archaeological attraction, ended being the primary generator of its degradation. This highlights the importance of rigorous analysis and planning before designating and promoting an archaeological site as a tourist attraction.



*In Ferraro, Lorena. Modelo para la conservación de este sustrato en la administración de parques nacionales en Argentina. Conserva N° 18, DIBAM, Santiago de Chile, 2011, pp. 69-70